



# Forest Ecosystem Management, pllc

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## Northern Spotted Owl Assessment

### Arrow & Branch Winery

#### Napa County

Report Completed by: Pamela Town, Consulting  
Wildlife Biologist on July 28, 2021

## Northern Spotted Owls (*Strix occidentalis caurina*)

Northern Spotted Owls (NSO) are listed as Threatened under both the Federal Endangered Species Act (ESA) and California State Endangered Species Act (CESA), as well as Sensitive under California Department of Forestry and Fire Protection (CalFire). They are a common to uncommon owl in the coniferous forest of the Pacific Northwest (PNW), ranging from southern British Columbia south to Marin County in northwestern California.

The northern spotted owl is a subspecies of spotted owl (*Strix occidentalis*) found in western North America. They are a medium-sized (16 to 20 inches) dark brown owl with a barred tail, white spots on their head and breast; and dark brown eyes surrounded by a prominent facial disk. The northern spotted owl is a permanent resident in suitable habitat residing in dense, old-growth, and multi-layered second-growth stands of mixed conifer, redwood, and Douglas-fir habitats.

Northern Spotted Owls are rodent specialists, primarily feeding on woodrats (*Neotoma fuscipes*), deer mice (*Peromyscus spp.*), Sonoma tree voles (*Arborimus pomo*), voles (*Microtus spp.*) and northern flying squirrels (*Glaucomys sabrinus*); but has been known to consume small birds, bats, amphibians, and large arthropods. Foraging is completed by searching for prey from a perch and swooping/pouncing on the prey. NSOs usually nest in stick nests (mistletoe clump, abandoned raptor or squirrel nest), in a cavity tree or snag, or in the broken top of a large tree. In the interior region of their range (as seen in Napa County), there appears to be a preference to well-shaded habitat in narrow, steep-sided canyons with north or east-facing slopes to assist in thermoregulatory needs, as they are intolerant of high temperatures.

Spotted owl life-history traits suggest coevolution with late-seral, old growth forests, and second growth forest with scattered late-seral characteristics. They are relatively long-lived and have high adult survival, low reproductive output, and high parental investment in offspring.

Threats to the northern spotted owl include increased competition, and perhaps predation, from the barred owl (*Strix varia*). In addition to the threats from the barred owls, spotted owl populations may also be negatively impacted by unregulated activities that modify habitat and introduce toxic substances into the environment and food chain (i.e. illegal logging, development, marijuana cultivation, etc.).

The Arrow & Branch Winery Project, located off Solano Avenue in Napa California, is located within the range of the Northern Spotted Owl. To reduce potential impact to NSOs, the standard survey methods and take-avoidance measures advocated by the trustee agencies for the spotted owl in California (CalFire 2008 and USFWS 2012 & 2019) were adapted for used for this Project.

### **Arrow & Branch Winery General Information**

Project Location: nkn Solano Avenue; Napa, California (Attachment #1)

Legal of Project Area: Portions of Section 18, T06N, R04W MDB&M

APN: 034-190-040-000

County: Napa County

Proposed Project: Building Winery including structure, parking area, driveway, and landscaping.

### **Known Northern Spotted Owl Territories**

There are no known northern spotted owl territories within 1.3-miles of this Parcel (Attachment #2). The 1.3-mile assessment area was created by USFWS for a Take Avoidance of northern spotted owls within the California Interior (outside the coastal redwood zone). Although the County does have redwoods, the environmental conditions in the area are hotter/drier than the coastal redwood zone; therefore, the 1.3-mile assessment area was used for this Project.

The closest known territory (NAP0016) is located approximately 1.8 miles southwest from this Project (shown on Attachment #1), with this territory being established with only a single detection of a northern spotted owl in June of 1990.

### **Northern Spotted Owl Habitat**

The general attributes for northern spotted owl habitat include a forest with:

- Dense, multi-layered canopy of several tree species.
- Trees of varying sizes and ages.
- Abundant logs, snags/cavity trees, and trees with broken tops or platform-like substrates (i.e., broken tops, mistletoe, debris piles, or old raptor/squirrel nests).
- Open spaces among lower branches to allow flight under the canopy.

USFWS Northern Spotted Owl Take Avoidance Analysis – Interior (Attachment B) dated 27FEB08 further defines NSO habitat as follows:

- High Quality Nesting/Roosting Habitat: Mixed tree species with basal area of 210+ ft<sup>2</sup> and  $\geq 15''$  quadratic mean diameter, and  $\geq 8$  trees per acre of trees  $\geq 26''$  in diameter at breast height, and  $\geq 60\%$  canopy closure.

- Suitable Nesting/Roosting Habitat: Mixed tree species with basal area ranging from 150 - 180+ ft<sup>2</sup> and  $\geq 15''$  quadratic mean diameter, and  $\geq 8$  trees per acre of trees  $\geq 26''$  in diameter at breast height, and  $\geq 60\%$  canopy closure.
- Suitable Foraging Habitat: Mixed tree species with basal area ranging from 120 - 180+ ft<sup>2</sup> and  $\geq 13''$  quadratic mean diameter, and  $\geq 5$  trees per acre of trees  $\geq 26''$  in diameter at breast height, and a mix of  $\geq 40\%$  to 100% canopy closure.
- Low Quality Foraging Habitat: Mixed tree species with basal area ranging from 80 - 120+ ft<sup>2</sup> and  $\geq 11''$  quadratic mean diameter, and  $\geq 40\%$  canopy closure.

Recent Wildfire (Last 10-Years): To my knowledge, this Parcel does not fall within the perimeter of any known recent wildfires. The closest recent wildfires were the 2017 Nuns Fire to the West and the 2017 Atlas Fire across the Valley to the East. No recent scorching was noted on the property.

Parcel & Project Area: The Parcel and Project area is primarily existing agriculture (vineyards) with a strip of trees along Dry Creek along the northern boundary of the parcel (Attachment #3). The strip of trees along Dry Creek is approximately 100' to no more than 250' wide. USFWS states that watercourses as well as other narrow habitat strips are not wide enough by themselves to provide functional nesting/roosting habitat (should be at least 300' wide). If the narrow strip is bordered on both sides by unsuitable habitat, then it might be considered functionally foraging habitat at best. As the strip of forest along Dry Creek is so narrow and is surrounded by residential houses, commercial businesses, major highway, and agricultural land (vineyards and hay fields) for well over ¼ mile in all directions (Attachment #3), the strip of forest along Dry Creek is not considered suitable NSO habitat and would not support resident NSOs.

The Proposed Project will not be removing any trees. The Proposed Project will not be altering any vegetation along Dry Creek. Only existing vines will be altered.

### **Northern Spotted Owl Surveys**

Northern Spotted Owl Take Avoidance Scenarios: For the purpose of review of this Project, the following scenario could be used by USFWS to determine whether a take is likely to occur for spotted owls.

#### **Scenario 1:**

- A. No Suitable Habitat within harvest units, and
- B. No Suitable Habitat within 0.25 miles of timber operations

Northern Spotted Owl Surveys: As there is no suitable NSO habitat within the Project Area and no suitable NSO habitat within 0.25 mile; no NSO surveys are required.

## Northern Spotted Owl Project Protection Measures

- No Trees will be removed.
- No vegetation along Dry Creek will be altered.
- There is no suitable NSO habitat within the Project Area or within 0.25 mile of the Project.
- There are no known NSO territories within 1.3 miles of the Project Area.
- No northern spotted owl surveys are required.
- No operations, other than the use and maintenance of existing roads, will occur within 1,000' of any occupied spotted owl activity center. ***At this time, there are no known NSO activity centers within 1.3 miles of this Project.***
- Seasonal disturbance buffers (1/4 mile) will be observed for occupied sites during the breeding season (01FEB – 31AUG) or at least until protocol surveys support probable absence, non-nesting, nest failure, or fledgling flight can be determined. ***At this time, there are no known NSO activity centers within 1.3 miles of this Project.***
- If Project Description changes from that listed within this Assessment, a new NSO Assessment may be required.

## Attachments

Attachment #1 – Topographical Map – Project Location and NSOs within 1.3 Miles (1 page)

Attachment #2 – CA Fish & Wildlife Spotted Owl Sites Found – Report #1 (1 page)

Attachment #3 – Aerial Photo of Project Area and ¼ Mile Assessment Area (1 page)

## Northern Spotted Owl Contact Information

Questions or comments regarding this NSO information can be directed to:

Pamela Town  
Consulting Wildlife Biologist & SOE  
Forest Ecosystem Management, PLLC  
(406) 490-7427  
Pamtown30@gmail.com

## Other Information

### Definitions:

- Activity Center: Area of concentrated activity of either a pair of NSOs or a single territorial NSO, represented by a mapped location (usually a nest tree) that occurs within, but not necessarily in the exact center of, the core area. Where clusters of site centers exist in a core area a geographic centroid or nearest neighbor calculation may be used as a designated activity center for habitat analysis purposes. A single territory may also have more than one designated activity center.
- Territory: A spatial area of landscape that is defended by a single resident or pair of northern spotted owls. Specific NSO territories generally refer to a fixed geographic area. Over time, individual spotted owls may occupy different territories (i.e. breeding dispersal, interference competition with barred owls, changes in habitat or prey availability, etc.).

- Home Range: In the absence of site-specific data, the home range is a 1.3-mile radius circle centered on the activity center.
- Territory Identification Number (NAP0005): A number generated by the California Department of Fish & Wildlife assigned to a geographic area currently and/or historically occupied by northern spotted owls.
- Suitable Habitat: Areas meeting the criteria for high quality nesting/roosting habitat, suitable nesting/roosting habitat, suitable foraging habitat, and low-quality foraging habitat.
- Unsuitable Habitat: Areas not meeting the criteria for high quality nesting/roosting habitat, suitable nesting/roosting habitat, suitable foraging habitat, and low-quality foraging habitat.
- NSO Breeding Season: February 1 to August 31<sup>st</sup> within the inland ecotype.
- Degrade Habitat: Signifies when treatments have a negative influence on the quality of habitat due to the removal or reduction of NSO habitat elements but not to the degree where the existing habitat function is changed.
- Downgrade Habitat: Treatments that reduce habitat elements to the degree the habitat will not function in the capacity that exists pre-treatment, but the activities will not remove habitat entirely.
- Assessment Area: The area used to address northern spotted owls includes 1) Project Footprint; 2) Area within ¼ mile of Project Footprint; 3) 1.3 miles from Project Footprint.

References:

CalFire FRAP Fire Perimeters. <https://frap.fire.ca.gov/frap-projects/fire-perimeters/> Website accessed 2021.

CalFire. 2008. Important Information for Timber Operations Proposed within the Range of the Northern Spotted Owl. California Department of Forestry & Fire Protection. February 2008.

Northern Spotted Owl Take Avoidance Analysis and Guidance for Private lands in California. Attachment B: Take Avoidance Analysis – Interior. United States Department of Interior Fish & Wildlife Service. February 2008.

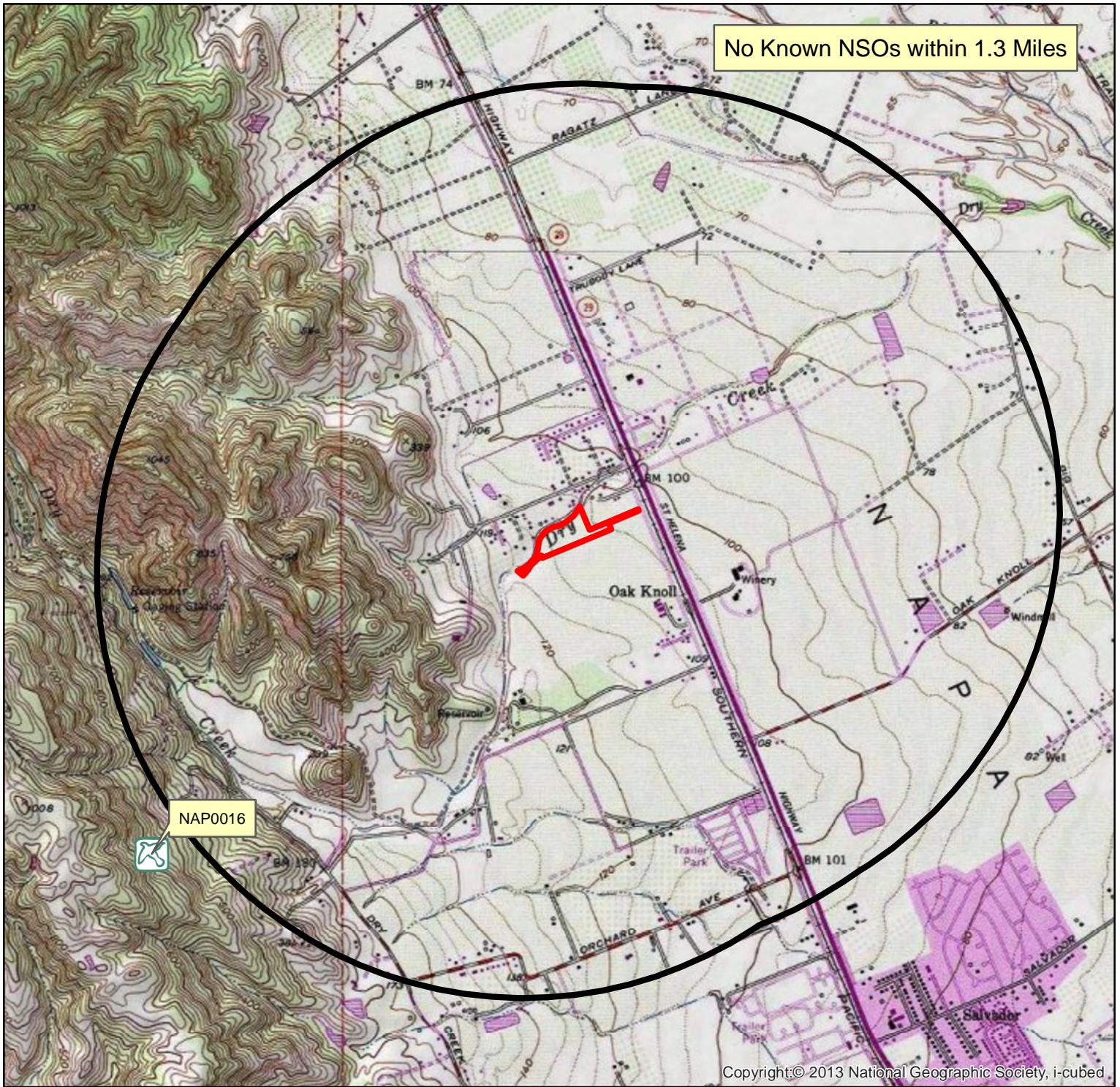
Northern Spotted Owl Take Avoidance Analysis and Guidance for Private lands in California. Attachment B: Take Avoidance Analysis – Interior. United States Department of Interior Fish & Wildlife Service. Updated November 2019.

Northern Spotted Owl Viewer (BIOS CA Natural Diversity Database). Managed by California Department of Fish & Wildlife.




Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls. Endorsed by the U.S. Fish & Wildlife Service. February 2, 2011 and Revised January 9, 2012.

Zeiner, D.C., W.F. Laudenslayer, K.E. Mayer, and M. White, eds. 1988 – 1990. California’s Wildlife. Vol. I – III. California Department of Fish & Game, Sacramento, CA.

# Arrow & Branch Winery Project Location



**Legend**

-  Property Boundary
-  1.3 Mile Assessment Area
-  NSO

Portions Sec. 18 T06N, R04W MDB&M  
APN: 034-190-040-000  
Napa County



1 in = 2,917 ft

Date: 7/22/2021

Data Version Date:  
06/29/2020  
Report Generation Date:  
7/22/2021

**Report #1 - Spotted Owl Sites Found**  
Known Spotted Owl sites having observations  
within the search area.



Meridian, Township, Range, Section (MTRS) searched:

M\_06N\_04W Sections(07,08,09,16,17,18,19,20,21,28,29,30);

M\_06N\_05W Sections(11,12,13,14,23,24,25,26);

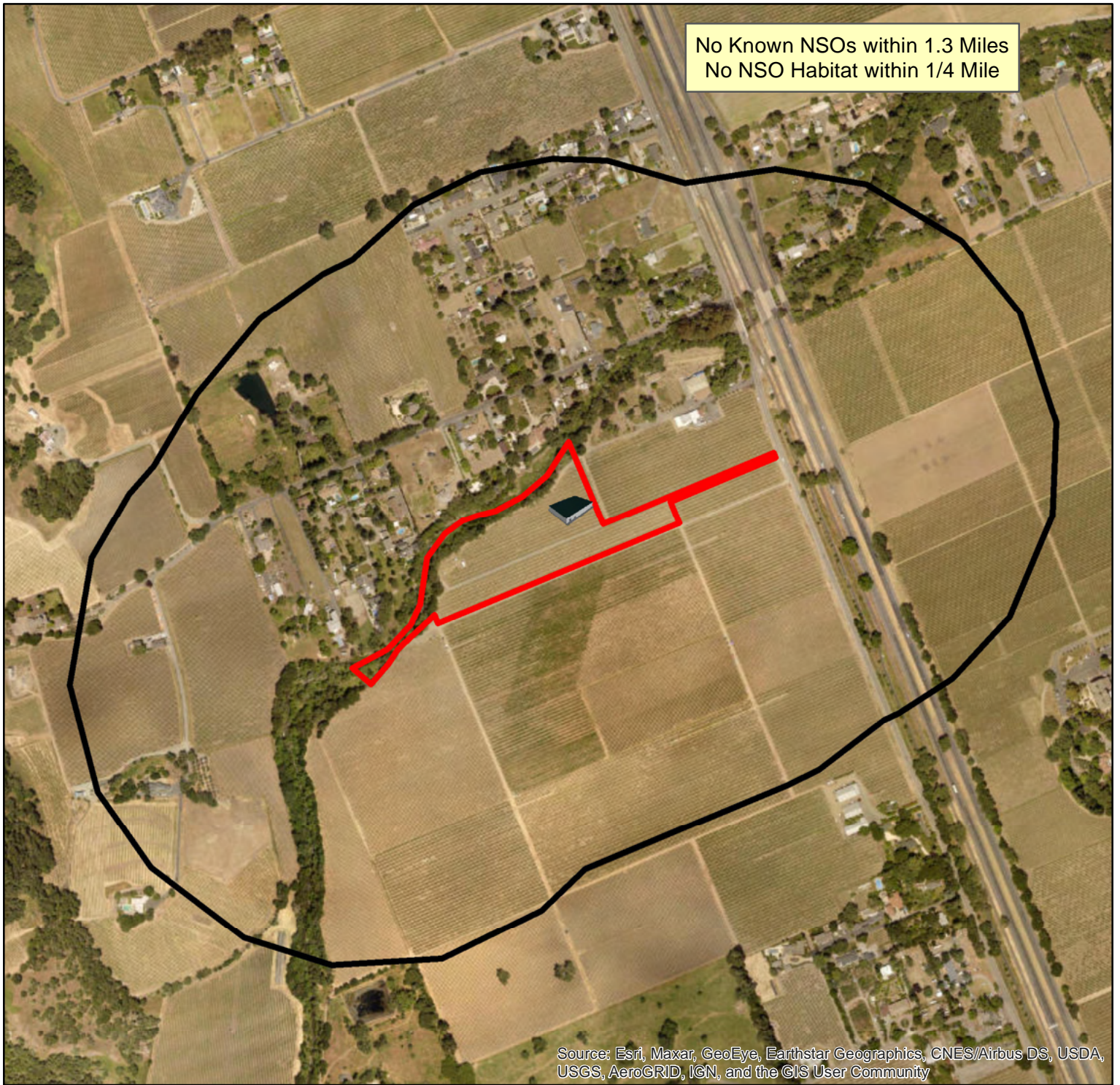
NOTES:

Arrow & Branch Winery




Masterowl	Subspecies	LatDD NAD83	LonDD NAD83	MTRS	AC Coordinate Source
NAP0010	NORTHERN	38.343553	-122.396663	M 06N 05W 27	Contributor 3.9 Miles
NAP0016	NORTHERN	38.347983	-122.365383	M 06N 05W 24	Contributor 1.8 Miles
NAP0020	NORTHERN	38.337498	-122.376345	M 06N 05W 26	Contributor 3+ Miles
NAP0031	NORTHERN	38.371590	-122.391900	M 06N 05W 15	Contributor 3.4 Miles
NAP0038	NORTHERN	38.355946	-122.405716	M 06N 05W 22	Contributor 4+ Miles

Owls in  
1.3 Miles:  
NONE

# Arrow & Branch Winery Project



**Legend**

-  Property Boundary
-  Project Area - Winery
-  1/4 Mile Assessment Area

Portions Sec. 18 T06N, R04W MDB&M  
APN: 034-190-040-000  
Napa County



1 in = 833 ft  
Date: 8/2/2021